

Claims

What is claimed is:

1. A method for controlling an antenna mast comprising:
receiving an electromagnetic signal via an antenna mounted on an antenna mast;
determining a signal quality level associated with the received electromagnetic signal;
comparing the signal quality level to a threshold minimum signal quality level;
detecting a current elevational position of the antenna mast;
raising the antenna mast to a greater height than the current elevational position if the compared signal quality level is less than the threshold minimum signal quality level and if the current elevational position is less than a maximum height of the antenna mast.
2. The method according to claim 1 wherein the signal quality comprises a determined signal-to-noise ratio and the minimum signal quality level comprises a minimum signal-to-noise ratio.
3. The method according to claim 1 wherein the signal quality comprises a determined signal strength and the minimum signal quality level comprises a minimum signal strength.
4. The method according to claim 1 wherein the signal quality comprises a determined bit-error rate and the minimum signal quality level comprises a maximum bit-error rate.
5. The method according to claim 1 further comprising:
detecting an obstacle in a clearance zone above and laterally about the antenna mast;

lowering the antenna mast upon detection of an obstacle within the clearance zone.

6. The method according to claim 1 further comprising:

detecting an obstacle in a clearance zone above and about the antenna mast;
prohibiting the raising of the antenna mast until the obstacle is no longer present in the clearance zone.

7. The method according to claim 1 further comprising:

using the antenna mast to remote control operation of a vehicle on which the antenna mast is mounted.

8. The method according to claim 1 further wherein the raising of the antenna mast is accomplished by pneumatically, hydraulically or mechanically applying force to one or more sections of the antenna mast.

9. A method for controlling an antenna mast comprising:

receiving an electromagnetic signal via an antenna mounted on an antenna mast;

determining a signal quality level associated with the received electromagnetic signal;

comparing the signal quality level to a threshold minimum signal quality level;

detecting a current elevational position of the antenna mast;

detecting if an obstacle is present within a clearance zone associated with the antenna mast in the current elevation position; and

raising the antenna mast to a greater height than the current elevational position if the compared signal quality level is less than the threshold minimum signal quality level, if the current elevational position is less than a maximum height of the antenna mast, and if the detected obstacle is not within the clearance zone about the antenna mast.

10. The method according to claim 9 wherein the signal quality comprises a measured signal-to-noise ratio and the minimum signal quality level comprises a minimum signal-to-noise ratio.
11. The method according to claim 9 wherein the signal quality comprises a signal strength and the minimum signal quality level comprises a minimum signal strength.
12. The method according to claim 9 wherein the signal quality comprises a determined bit-error rate and the minimum signal quality level comprises a maximum bit-error rate.
13. The method according to claim 9 further comprising:
 - detecting an obstacle in a clearance zone above and about the antenna mast;
 - lowering the antenna mast upon detection of an obstacle within the clearance zone.
14. The method according to claim 9 further comprising:
 - detecting an obstacle in a clearance zone above and about the antenna mast;
 - prohibiting the raising of the antenna mast until the obstacle is no longer present in the clearance zone.
15. The method according to claim 9 further comprising:
 - using the antenna mast to remote control operation of a vehicle on which the antenna mast is mounted.
16. The method according to claim 9 further wherein the raising of the antenna mast is accomplished by pneumatically, hydraulically or mechanically applying force to one or more sections of the antenna mast.
17. A system for controlling an antenna mast comprising:
 - a receiver for receiving an electromagnetic signal via an antenna mounted on

an antenna mast;

a signal evaluator for determining a signal quality level associated with the received electromagnetic signal, the signal evaluator arranged to compare the signal quality level to a threshold minimum signal quality level;

a position sensor for detecting a current elevational position of the antenna mast; and

an elevational system for raising the antenna mast to a greater height than the current elevational position if the compared signal quality level is less than the threshold minimum signal quality level and if the current elevational position is less than a maximum height of the antenna mast.

18. The system according to claim 17 wherein the signal-to-noise ratio comprises the signal quality and the minimum signal quality level comprises a minimum signal-to-noise ratio.

19. The system according to claim 17 wherein signal strength comprises the signal quality and the minimum signal quality level comprises a minimum signal strength.

20. The system according to claim 17 further comprising:

an obstacle detector for detecting an obstacle in a clearance zone above and about the antenna mast;

the elevational system lowering the antenna mast upon detection of an obstacle within the clearance zone.

21. The system according to claim 17 further comprising:

an obstacle detector for detecting an obstacle in a clearance zone above and about the antenna mast;

a controller for prohibiting the raising of the antenna mast until the obstacle is no longer present in the clearance zone.

22. The system according to claim 17 further wherein the elevational system

comprises one of the following: a pneumatic device, an air compressor, a pressurized tank of air, a pressurized tank of inert gas, a hydraulic pump, and a hydraulic device.

23. A system for controlling an antenna mast comprising:

- a receiver for receiving an electromagnetic signal via an antenna mounted on an antenna mast;

- a signal evaluator for determining a signal quality level associated with the received electromagnetic signal;

- comparing the signal quality level to a threshold minimum signal quality level;

- a position sensor for detecting a current elevational position of the antenna mast;

- an obstacle detector for detecting if an obstacle is present above the antenna mast in the current elevation position; and

- an elevational system for raising the antenna mast to a greater height than the current elevational position if the compared signal quality level is less than the threshold minimum signal quality level, if the current elevational position is less than a maximum height of the antenna mast, and if the detected obstacle is not within a clearance zone about the antenna mast.